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PATENT SPECIFICATION



626,631

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Complete Specification Accepted : July 19, 1949.

Index at acceptance:—Class 18, G(1: 6); and 66, L(3: x).

PROVISIONAL SPECIFICATION.

Improvements in or relating to Dispensing Means for Powder and other Flowable Materials.

We, ASHTON PRODUCTS LIMITED, a British Company, and LESLIE PEARSON, a British subject, both of the Company's address at 143-167, Brookhill Road, Bootle, Liverpool, 20, in the County of Lancaster, do hereby declare the nature of this invention to be as follows:—

This invention is for improvements in or relating to means for dispensing fluid, powdered or like materials. The invention is particularly concerned with means for discharging a cloud or stream of insecticide powder onto an insect infested surface or onto a surface, such as a wall, on which insects are likely to settle.

One object of the invention is to provide a carton, box or like package for the transport, display and sale of an insecticide or other powder and which can also be used by the purchaser of the powder as a means for discharging a more or less controllable cloud or stream of the powder onto the surface to be treated. A further object of the invention is to construct the device so that the powder is or can be evenly distributed over the surface.

According to the present invention there is provided a bellows-like or similar carton, box or other package for a flowable material and particularly a powder, having an outlet for the discharge of the powder when the carton is collapsed bellows-fashion.

Conveniently the carton comprises a one-piece "V" shaped lining or inner part of spring steel or other resilient metal or material to provide the oppositely disposed collapsible walls of the bellows-like carton. The resiliency of the lining causes the carton to return to its normal form after the hard pressure operating the bellows has been removed. This lining or inner part is enclosed in an outer casing of flexible material which provides the walls proper of the carton.

One specific embodiment of a carton

according to the present invention will now be described by way of example. 50

The carton comprises an inner part or lining in the form of a strip of steel bent to "V" shape and enclosed in a flexible outer casing which covers the inner lining and provides the necessary flexible side walls of the carton. This outer casing may be of flexible transparent cellulose material, cloth, paper or the like. The bottom of the casing comprises a rectangle of cardboard or the like which may be secured to and between the opposite edges of the metal inner part the bottom having a central weakened part or hinge extending from side to side of the carton to permit the metal inner part or lining to be collapsed. It will be appreciated that the shape of the expanded carton just described is similar to that of a pyramid but with two inclined sides and two vertical sides. The apex of the carton is provided with a discharge nozzle for the contents of the carton. This nozzle may have a screw thread or other means for securing a closure cap to the nozzle. It is convenient to insert the nozzle through a hole in the metal apex of the carton and secure it with a nut or rivet. 55 60 65 70 75

To use the carton for discharging the contents thereof, the closure cap is removed from the nozzle and the carton is collapsed bellows-fashion by applying pressure by the fingers and thumb to the metal side walls of the carton. This causes a stream or cloud of the powder in the carton to issue from the nozzle and this stream or cloud can be directed onto and evenly distributed over the surface to be treated. Once the pressure on the sides of the carton has been removed it will expand to its normal shape due to the natural resiliency of the metal lining. 80 85 90

Filling of the carton may be effected through one of the flexible sides or through the bottom, before the construc-

[Price 2/4] 4s 6d

Price 2s.

tion of the walls of the carton has been completed.

Dated this 7th day of November, 1945.

E. R. ROYSTON & CO.,
Chartered Patent Agents,
Tower Buildings, Water Street,
Liverpool, 3.

COMPLETE SPECIFICATION.

Improvements in or relating to Dispensing Means for Powder and other Flowable Materials.

We, ASHTON PRODUCTS LIMITED, a British Company, and LESLIE PEARSON, a British subject, both of the Company's address at 143-167, Brookhill Road, Bootle, Liverpool, 20, in the County of Lancaster, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention is for improvements in or relating to means for dispensing powder or liquid. The invention is particularly concerned with means for discharging a cloud or stream of insecticide powder onto an insect infested surface or onto a surface, such as a wall, on which insects are likely to settle.

One object of the invention is to provide a carton or box for the transport, display and sale of an insecticide or other powder and which can also be used by the purchaser of the powder as a means for discharging a more or less controllable cloud or stream of the powder onto the surface to be treated. A further object of the invention is to construct the device so that the powder is or can be evenly distributed over the surface.

According to the present invention there is provided a carton or box for the vending of a powder or liquid having side walls, end walls and a bottom, the end walls being indented so that when pressure is applied to the sides of the box or carton it will collapse bellows fashion, and having an outlet means for the discharge of the powder or liquid from the box or carton when it is operated as a bellows and including a spring of "V" like form with its limbs engaging opposite side walls of the carton.

The resiliency of the spring causes the carton to return to its normal form after the pressure operating the bellows has been removed. Preferably the carton is inclosed in an outer casing of flexible material. Conveniently the apex of the spring is shaped so as to cause the material to diffuse through the outlet in the form of a cloud.

The invention will be further described with reference to the accompanying drawings which show, by way

of example, one embodiment of the invention applied to a bellows-like carton for the sale, and subsequent diffusion by the purchaser, of a powder substance such as an insecticide of the kind known as D.D.T. In the drawings:—

Figure 1 is a side elevation of the carton.

Figure 2 is a plan view.

Figure 3 is an underneath view.

Figure 4 is a sectional view on the line IV-IV of Figure 5.

Figure 5 is a sectional view on the line V-V of Figure 4.

Figure 6 is a front elevation of the carton showing the manner in which it is manipulated to discharge the contents, and

Figure 7 is an elevation of the main cardboard part of the carton before the nozzle and covering are applied before filling and closure thereof.

Briefly the box carton comprises an interior carton 10 of cardboard (shown in detail in Figure 7) a discharge nozzle 11 secured in the upper part of the carton, a spring member 12 within the carton and an outer covering 13 consisting of one or more layers of flexible material.

The carton is of bellows-like form and of pyramid-like shape so that it can be stood on its base and has side walls 14, end walls 15 and a bottom comprising inner flaps 16 on the lower edge of each end wall and outer flaps 17 on the lower edge of each side wall. The end walls are indented as indicated at 18 so that when pressure is applied to the sides of the carton, as hereinafter described, it will collapse bellows fashion.

The nozzle 11 is of metal or other material and is fixed in a wooden block 19 adhesively secured in the upper part of the carton.

The spring member 12 comprises an inverted somewhat "V" shaped leaf spring proper 20 having the ends of its legs secured to sheet metal pressure applying members 21, said members bearing on opposite sides of the container for a substantial part of the width thereof and having inturned lower edges 22. The legs of the spring are secured to the members 21 by punched out straps

23 in said members. The upper part of the spring is bulged out as indicated at 24 to cause the contents of the carton, when the latter is compressed, to be 5 diffused as a cloud, rather more than as a jet, from the nozzle 11.

The outer flexible covering 13, which is conveniently of regenerated cellulose foil and is applied after the carton has 10 been filled through the bottom opening and the latter closed by the flaps 16, 17 serves as an additional means for preventing leakage of powder. The nozzle 11 is closed with a material which is 15 easily pierced when it is required to use the device.

To use the device pressure is applied, against the action of the spring, to the two opposite sides (see Fig. 6) at points 20 indicated by circles 25 printed on the carton in addition to the usual descriptive matter. By applying and then releasing the pressure the carton is operated bellows fashion to expel clouds of, 25 for example, insecticide on to the surface to be treated.

The nozzle may have a removable (e.g. screw) closure cap.

Having now particularly described 30 and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. A carton or box for the vending of 35 a powder or liquid having side walls, end walls and a bottom the end walls being indented so that when pressure is applied to the sides of the box or carton it will collapse bellows fashion, and 40 having an outlet means for the discharge of the powder or liquid from the box or

carton when it is operated as a bellows and including a spring of "V" like form with its limbs engaging opposite 45 side walls of the carton.

2. A carton or box as claimed in claim 1 wherein the limbs of the spring engage transverse pressure applying members which bear on the opposite sides 50 of the carton for a substantial part of the width thereof.

3. A carton or box as claimed in claims 1 or 2 wherein the apex of the spring is of domed or rounded form for the purpose described. 55

4. A carton or box as claimed in any of the preceding claims and having a removable or destroyable closure for the outlet means.

5. A carton or box as claimed in any 60 of the preceding claims and comprising an inner carton of flexible cardboard or the like and an outer skin or casing of flexible material.

6. A carton or box as claimed in any 65 of the preceding claims wherein the outlet means is a nozzle fixed in a wooden block secured in the discharge end of the carton.

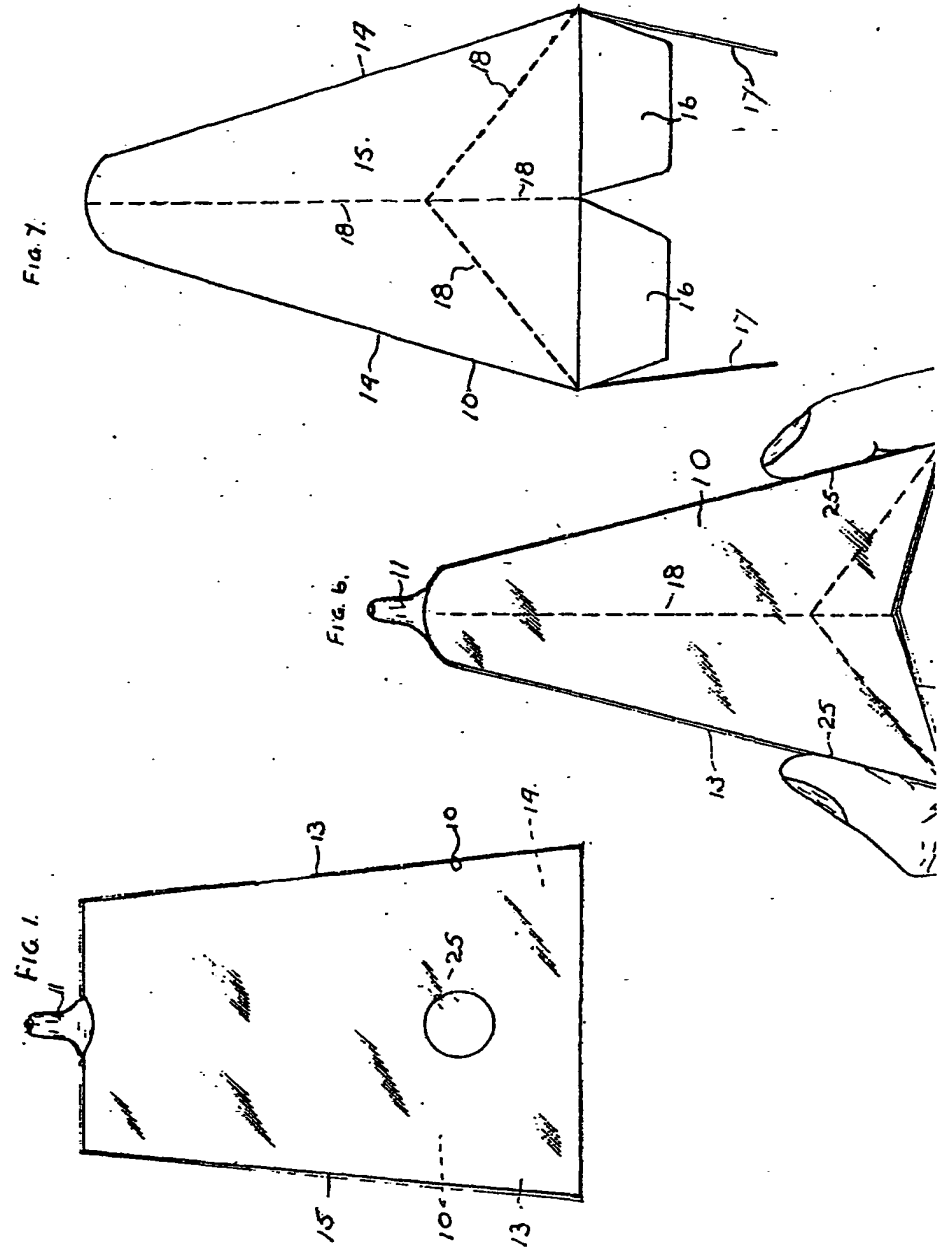
7. A carton or box as claimed in any 70 of the preceding claims and of pyramid-like shape so that it can be stood on its base.

8. A carton or box substantially as herein described with reference to the 75 accompanying drawings.

Dated this 11th day of July, 1946.

E. R. ROYSTON & CO.,
Chartered Patent Agents,
Tower Buildings, Water Street,
Liverpool, 3.

[This Drawing is a reproduction of the Original on a reduced scale.]



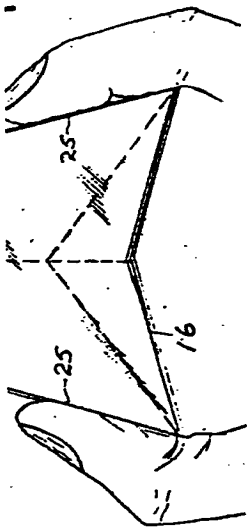


Fig. 4.

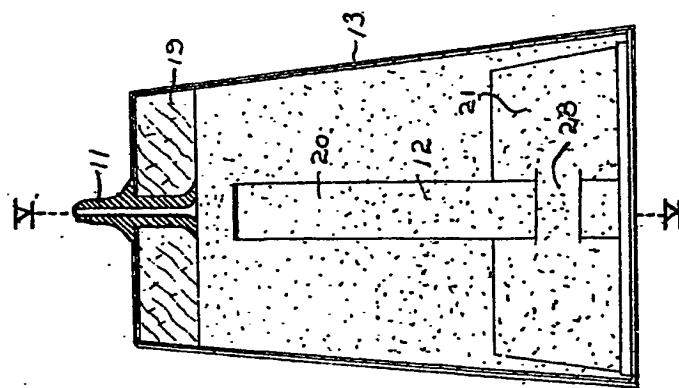
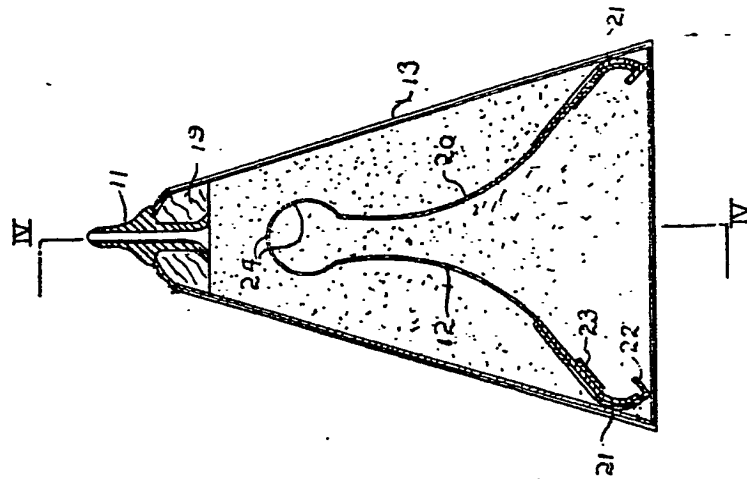


Fig. 5.



[This Drawing is a reproduction of the Original on a reduced scale]

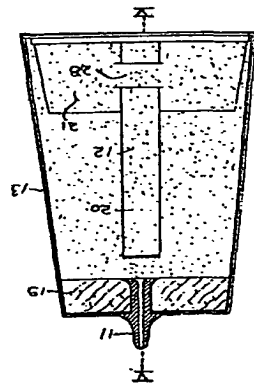


FIG. 2

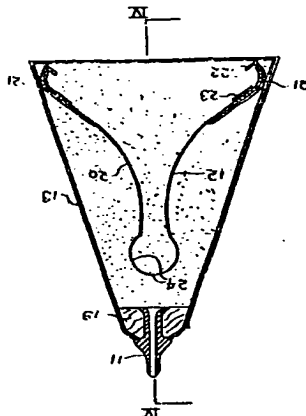


FIG. 5

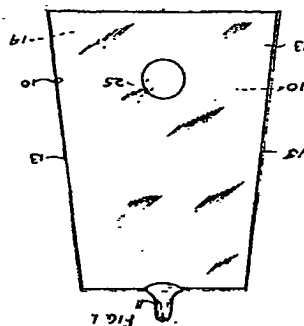


FIG. 1

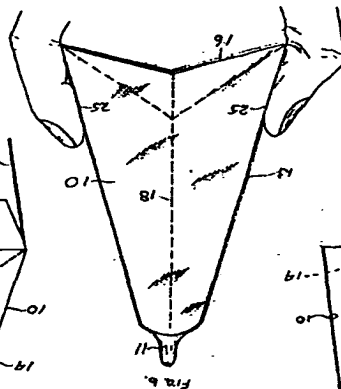


FIG. 6

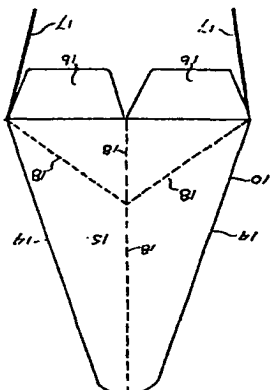


FIG. 7